



Curriculum Sequencing - Year 10

Year 10 NEA practice Speaker Project term 2/3 : GCSE

Topics covered:

Specialist technical principles
 selection of materials or components
 forces and stresses
 ecological and social footprint
 sources and origins
 using and working with materials
 stock forms, types and sizes
 scales of production
 specialist techniques and processes
 surface treatments and finishes.
 Designing and making principles
 investigation, primary and secondary data
 environmental, social and economic challenge
 the work of others
 design strategies
 communication of design ideas
 prototype development
 selection of materials and components
 tolerances
 material management
 specialist tools and equipment
 specialist techniques and processes

How it links to what you have studied before:

In ks3 you will have learnt how to design and make products from all specialisms in DT. Now you will focus on broadening your knowledge and you can then specialise in one are from the list below:
 papers and boards
 timber based materials
 metal based materials
 polymers
 textile based materials
 electronic and mechanical systems.

How it links to what you will study:

The theory and practical work will allow you to experiment and develop your skills to allow you to design, make and evaluate your own design ideas.

Key words:

Industry, enterprise, sustainability, people, culture, society, environment, production techniques and systems, energy generation, fossil fuels, nuclear, renewable, energy storage, modern materials, smart materials, composite, technical textiles, systems approach, input, process, output, mechanical devices, working properties, papers and boards, natural and manufactured, metals and alloys, polymers, textiles, material properties,

Key skills:

Learning theory to implement into your own design, make and evaluate projects.

demonstrate their understanding that all design and technological activity takes place within contexts that influence the outcomes of design practice
 develop realistic design proposals as a result of the exploration of design opportunities and users' needs, wants and values

components forces and stresses, ecological and social footprint, 6Rs, social manufacture, sources and origins, working with materials, modification of properties, shape and forming with cutting abrasion and addition, stock forms, scales of production, production aids, tools equipment processes, commercial processes, quality control, surface treatments and finishes, primary, secondary data user, client, brief, specification, identify needs, economics challenge, work of others, design strategies, development, communication of ideas, prototype development, selection of materials, tolerances, material management, marking out, specialist tools and techniques.

use imagination, experimentation and combine ideas when designing
 develop the skills to critique and refine their own ideas whilst designing and making
 communicate their design ideas and decisions using different media and techniques, as appropriate for different audiences at key points in their designing
 develop decision making skills, including the planning and organisation of time and resources when managing their own project work
 develop a broad knowledge of materials, components and technologies and practical skills to develop high quality, imaginative and functional prototypes
 be ambitious and open to explore and take design risks in order to stretch the development of design proposals, avoiding clichéd or stereotypical responses
 consider the costs, commercial viability and marketing of products
 demonstrate safe working practices in design and technology
 use key design and technology terminology including those related to: designing, innovation and communication; materials and technologies; making, manufacture and production; critiquing, values and ethics.

Assessment focus

Designing and generation of ideas
 Making skills and safety through the practical
 Evaluation skill
 Theory through coursework practice NEA

Revision tips

Use the revision materials on the Google site.
<https://sites.google.com/worthinghigh.net/design-technology/gcse/theory-lessons>

Why we study it: Design and technology provides skills for life and future careers. This will cover a breadth of DT from textiles, graphics, product design resistant materials, systems and control, working with polymers, working with metals, engineering principles model making, electronics and many more topics that will support students to develop their skills for future careers.

Mastery in this subject: Independent, problem solving, accuracy with the build of their products and an excellent finish. A portfolio of coursework with 84 marks or above (out of 100). Students will be able to score 80% or above within their knowledge quiz.



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